DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

This application is in condition for allowance except for the presence of **claims 14-15, 17, 20, 22-24, and 27** directed to non-elected without traverse. Accordingly, **claims 14-15, 17, 20, 22-24, and 27** are cancelled.

2. Authorization for this examiner's amendment below was given in a telephone interview with Christopher R. Monday on 01/11/2010.

Cancel Claims 8, 18, and 29.

Re Claim 16, in line 10, delete " and Pb." and insert -- and Pb, and wherein said Ga_2O_3 polycrystalline raw material has a purity of 6N. --

Re Claim 21, in line 3, delete "exclusively"

Replace Claims 1 and 19 as shown below:

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1. A method of controlling a conductivity of a Ga_2O_3 system single crystal, comprising:

adding an n-type dopant to the Ga_2O_3 system single crystal to change a resistivity of the Ga_2O_3 system single crystal substantially linearly with an added amount of the n-type dopant,

wherein the n-type dopant comprises one of Zr, Si, Hf, Ge, Sn, and Ti,

wherein the Ga_2O_3 system single crystal is prepared with a Ga_2O_3 polycrystalline raw material, and

wherein the Ga_2O_3 polycrystalline raw material has a purity of 6N.

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19. A method of manufacturing a Ga_2O_3 system single crystal, comprising:

adding an n-type dopant to the Ga_2O_3 system single crystal, said n-type dopant comprising one of Zr, Si, Hf, Ge, Sn, and Ti; and

manufacturing the Ga_2O_3 system single crystal having a resistivity depending on an added amount of said n-type dopant by changing the resistivity of the Ga_2O_3 system single crystal substantially linearly with the added amount of said n-type dopant,

wherein the Ga_2O_3 system single crystal is prepared with a Ga_2O_3 polycrystalline raw material, and

wherein the Ga_2O_3 polycrystalline raw material has a purity of 6N.

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Allowable Subject Matter

3. **Claims 1, 4-5, 16, 19, 21, 25-26, and 28** are allowed.

Reasons for Allowance

4. The following is an examiner's statement of reasons for allowance:

Re Claims 1, the prior art of record, alone or in combination, and to the examiner's knowledge does not teach, disclose, suggest, or render obvious, at least to the skilled artisan, the instant invention regarding a method of controlling a conductivity of a Ga_2O_3 system single crystal, particularly characterized by controlling the conductivity of the Ga_2O_3 system single crystal in combination with a step of adding an n-type dopant to the Ga_2O_3 system single crystal, wherein the Ga_2O_3 system single crystal is prepared with a Ga_2O_3 polycrystalline raw material, and wherein the Ga_2O_3 polycrystalline raw material has a purity of 6N. Claims 16 and 19 are allowed with the similar reason discussed above regarding claim 1. Claims 4-5, 21, 25-26, and 28, which depend from claim 1, claim 16, or claim 19, are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL WHALEN whose telephone number is

(571)270-3418. The examiner can normally be reached on Monday-Friday, 7:30am to 5:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ha Nguyen can be reached on (571) 272-1678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. W./
Examiner, Art Unit 2829
01/11/2010

Daniel Whalen

/Ha T. Nguyen/

Supervisory Patent Examiner, Art Unit 2829